Chapter 4
Tourism and Economics: Technologically Enabled Transactions

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4.1 Introduction

The global economy has experienced several rounds of ups and downs in different regions since the beginning of the new millennium. After recovering from the global financial crisis of 2008–2009, the global economy has entered into a phase of a "new mediocre," characterized by stable yet slow growth (Lagarde 2014). In the past 15 years, several pivotal economic paradigms have been dominant driving forces in changing our ways of organizing economic activities, creating social organizations, and stimulating intellectual inquires. This chapter examines three economic paradigms recognized as the main forces of change: globalization, ecological economics, and Internet economy or "network economy" (Shapiro and Varian 1999). These paradigms, discussed in this chapter as common worldviews for observing economic and social phenomena, framing development problems, and finding actionable answers (Kuhn 1970), provide conceptual grounding for the analyses of salient global economic development activities in the past 15 years and the impact on tourism policy, destination management, and visitor experience.

After reviewing the three paradigms, we offer five scenarios as an approach to examining the future of tourism, seeking the balance between authenticity and connectivity in the highly globalized digital world. Using the five scenarios, we integrate the discussions of technologically enabled transactions in the tourism industry. Finally, we discuss the implications of future tourism at both macro and micro levels.

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4.2 The Paradigm of Globalization

In analyzing globalization as an ascendant paradigm, Mittelman (2002, p. 2) articulated that "globalization thus constitutes a set of ideas centered on heightened market integration, which, in its dominant form, neoliberalism, is embodied in a policy framework of deregulation, liberalization, and privatization." Globalization is actually not a new paradigm, since the exchange of trade, technology, and knowledge has been going on for decades (Arndt 1999). However, in this section, we focus on the paradigmatic shift to globalization in the last 15 years and point out the implications for both research and practice.

In the last 15 years, globalization, as manifested in international flow of goods, capital, people, and knowledge, has continued to expand at a significant pace, particularly the movement of people for tourist experiences. This can be best illustrated by the phenomenal increase of international tourist arrivals, from 699 million in 2000 (11.5% of the world population) to 1186 million in 2015 (16.5% of the world population)—an impressive 69.7% increase in the span of 15 years (UNTWO 2001, 2016). This phenomenal growth of international tourism can be largely attributed to globalization, as countries have realized the economic and social benefits of tourism and have been improving infrastructure and services and promoting tourism by facilitating easier entry. Such a view is evidenced by the United Nations World Travel Organization's study on travel facilitation, which indicated a 20–25% increase in the number of international tourists if a country simplifies its visa process (UNWTO 2013). The latest example in improving travel facilitation is the government of Indonesia, which initiated a visa-free program to 169 countries, special administrative zones, or special entities in early 2016.

In addition, globalization has spurred the mobility of labor across boundaries as more people have been seeking employment opportunities in other countries, many in the tourism sector. The number of migrant workers reportedly increased from 124.5 million in 2000 to 231.5 million in 2013 (Alonso 2015). Globalization has further enabled the transfer of knowledge for efficient production and effective management in the tourism industry. The development of technology has accelerated information flow in the last 15 years.

One noticeable paradigm shift in globalization in this period has been the shift of people and capital flow from East to West rather than from West to East. This shift was recognized by the UNWTO at the turn of the millennium, when it released *Tourism 2020 Vision* (UNWTO 1999). It correctly forecast the shift of outbound markets from the traditional source markets in Western Europe, North America, and Japan to alternative markets of Eastern Europe, Asia, and Mexico. It projected that Chinese outbound tourists would reach 100 million by 2020. However, this milestone was reached in 2014 when China reported outbound tourists of 107 million (China National Tourism Administration 2015) and an expenditure of $165 billion by outbound tourists in 2014, more than the $111 billion and $92 billion spent by the U.S. and German outbound tourists, respectively, in 2014 (UNWTO 2016). Although

Europe is still the main source of outbound tourist flow, Asia accounted for 24% of outbound tourist flow in 2014.

Similarly, the flow of capital has also shifted in this period. Foreign direct investment used to flow from advanced economies to emerging and developing economies. In the last decade, tourism and hospitality firms in Western countries strategically reduced their investment exposures in foreign countries, and most adopted an asset-light strategy by deploying franchise and management contracts for expanding overseas development. However, the flow of capital for tourism-related assets has been accelerated from emerging economies to mature economies in the last decade. The flow of capital in hotel investment in the U.S. was led by the Taj Hotel Group in India and was picked up by the Chinese companies since 2009, including Jin Jiang Hotels International, HNA Hospitality Group, and other real estate and insurance firms such as Wanda, Fuson, and Anbang.

This phenomenal shift in the globalization of tourism provides fertile field for tourism studies as well as challenges for investment, development, and management. Winter (2007) was one of the first scholars to study the rapid rise of the tourist population in Asia and noted the scant attention to domestic and intraregional tourism, since most tourism theories are grounded in Western tourist perceptions and behaviors. Scholars can thus find research opportunities to investigate and test consumer behaviors from different cultural and societal perspectives, and to study organizational behaviors of the newly globalized firms seeking global expansion. On the other hand, the increased flow of Asian tourists also presents opportunities and challenges to destinations and tourism firms elsewhere in the world for marketing to potential consumers who have different cultural values and consumer demand and providing services that meet their expectations.

4.3 The Paradigm of Ecological Economics

The second economic paradigm that deserves attention is the continuous discourse on economic development and ecological conservation, particularly examining the relationship between tourism and climate change. As globalization continues to advance and countries push for economic development through tourism, the demand for natural resources has been intensified and the balance has often tipped to the economic priority of gross domestic product (GDP) growth and urbanization in many developing countries. This has led to the development and maturing of an interdisciplinary field of economics: ecological economics. The study on ecological economics emerged in September 1982 at a Stockholm conference as a "progressive paradigm" in mainstream economics (Sheeran 2006). Out of concern for governments' drive for economic development as measured by GDP and corporations' motivation for earnings and profits, often at environmental and social costs, ecological economists examine the complex relationships between the ecological and economic systems and intend to extend neoclassical environmental economics to include human impacts on the ecosystem, such as global warming, smog, acid rain,

shrinking biodiversity, and widening wealth gaps (Costanza 1989). This interdisciplinary field thus focuses on a holistic approach to sustainable development using the genuine progress indicator (GPI) that measures income distribution effects, the value of household and volunteer work, costs of mobility and pollution, and the depletion of social and natural capital (Costanza et al. 2004; Wen et al. 2007). Since 2000, the field of ecological economics has matured, as measured by the impact of publications in *Ecological Economics* and the growing interest in applied and empirical research in different aspects of the economy, environment, and society (Costanza et al. 2016).

Increased consumption of fossil fuel has raised serious concerns for pollution and climate change due to the increasing level of carbon dioxide emissions. Smith (1990) was one of the first scholars to raise concern about the potential impact of global warming on the international tourism industry and called for planning for climate change. Since 2000, more researchers have examined the relationship between development, consumption, and climate change, as evidenced by the increasing number of books and papers on this subject (Agnew and Viner 2001; Becken and Hay 2007, 2012; Gossling 2010; Hall and Higham 2005; Scott et al. 2012).

Gossling (2002), at the beginning of the millennium, identified five impact areas of leisure activities on the environment: (1) the change of land cover and land use, (2) the use of energy and its associated impacts, (3) the exchange of biota over geographical barriers and the extinction of wild species, (4) the exchange and dispersion of diseases, and (5) a psychological consequence of travel, the change in the perception and understanding of the environment initiated by travel. Berrittella et al. (2006), using a general equilibrium analysis, examined the economic implications of climate change–induced variations in tourism demand and found that climate change will ultimately lead to a welfare loss, unevenly spread across regions. The study by Peeters and Dubois (2010) revealed that, based on a 2005 inventory of tourism-related carbon dioxide emission caused by global tourism, tourists caused 4.4% of global carbon dioxide emissions, and the emissions were projected to increase at an average rate of 3.2% annually until 2035. Applying automated scenario generation to define backcasting scenarios, the authors provided a model that could both reach the emission reduction target and retain the highest possible economic value for the global tourism industry.

Clearly, tourism is an economic sector that is both affected by climate change in terms of lost resources and generates impact on climate change through transportation services, lodging accommodations, and tourist activities. On the one hand, climate change is blamed for the rise of sea level, melting snow and glaciers, water shortage, and loss of biodiversity, the essential resources tourism is built on. On the other hand, the transportation of tourists by airplanes, buses, trains, and cars is identified as the major contributor of carbon dioxide emissions that affect climate change. Increasing demand for international travel has also generated new demand for air travel, as evidenced by the 6.5% demand increase (measured by revenue passenger kilometers) in the world in 2015 (IATA 2016); strong demand increase in India (25%) and China (8.2%); and the opening of new international routes by major airlines (Airline Network News and Analysis 2016). From January 1 to August

15, 2016, 1939 new international and domestic airline routes were launched (Airline Network News and Analysis 2016). The supply of air travel services follows closely the demand for both domestic and international travel. As the main contributor to carbon dioxide emission that has caused global warming, the air transportation sector needs to consider the balance of development and ecological sustainability. Adaption to climate change and mitigation of global warming are recommended as the practical approach to business and ecological sustainability (Scott et al. 2012; Weaver 2011).

4.4 The Paradigm of the Internet Economy

With rapid technological innovation and advancement, the use of the Internet has played an increasingly important role in all facets of society. At the turn of the millennium, the Internet economy became an area of economic studies because of its applications and commercialization and its impact on government, commerce, and society (Barua et al. 2000; DePrince and Ford 1999; Shapiro and Varian 1999). In their seminal work on the emerging Internet economy, Shapiro and Varian (1999) provided an insightful analysis of the rapid development of a network economy from an economics perspective, pointing out that scale economics is the underlying economic principle for the successful growth of Internet-based businesses. The authors provided an in-depth analysis of the distinct characteristics of an Internet economy by examining the production of information goods based on value-based pricing rather than cost-based pricing, the improvement of Internet infrastructure, and network externalities. Using established economic principles to examine the emerging Internet economy, Shapiro and Varian provided both theoretical underpinnings and practical implications for understanding emerging economic forces and for harnessing innovative technology to increase scale economies to gain profitable business. Mahadevan (2000) provided a three-dimensional framework for Internet-based enterprises to organize and guide their business organizations in the rapidly evolving Internet economy, and Fichter (2003) outlined sustainable business strategies in the Internet economy.

After the initial euphoric rush to get on the .com bandwagon and the subsequent bursting of dot com bubbles in the early 2000s, the Internet economy has quickly become one of the fastest-growing sectors of the economy, evolving from information sharing to business transactions to social media and shared economy (Barfield et al. 2015). Based on the report by the International Telecommunication Union (2015), the number of Internet users has grown from 738 million in 2000 to 3.2 billion in 2015, a sevenfold increase of Internet penetration, accounting for 43% of the global population. Internet connectivity through both desk and mobile devices has enabled businesses to inform and reach potential consumers, without geographical limitations, for product sales and relationship management. The impact of the Internet economy was estimated at $966.2 billion in the U.S., 6% of the real GDP in 2014 (Internet Association 2015).

The tourism industry was quick to leverage Internet technology to organize and provide travel information online and soon to act as agents of standard products in travel services, such as airline tickets, hotel rooms, and travel packages. Price, a greater range of products, and convenience are the main motivations of online travel consumers. The phenomenal development of digital technology and electronic commerce became disruptive forces to the traditional, physical travel service providers, as consumers opted to go to Expedia.com, Booking.com, TravelSupermarket.com, and metasites such as Kayak.com for their travel needs. In competition with the emerging online travel agents (OTAs) and other ecommerce travel providers, traditional travel service providers also improved their online promotions and sales by developing an online to offline business model, attempting to attract consumers online and direct them to consume products and experience services offline with online systems for payment and consumer-generated comments. Internet technology also enabled the development of social media and social networks for consumers to exchange information and share service experience. One of the latest applications of Internet technology has focused on shared economy to utilize idle resources by individuals for travel services, such as lodging, taxi, food, tour guide, etc. Many view the shared economy business as having a disruptive effect on the tourism industry (Ting 2016b).

In addition, Internet technology has been widely responsible for a shift from traditional marketing strategies to digital marketing strategies that drive both online and offline customer acquisition and retention. The sheer mass of information created every minute on the Internet has given birth to what is known as big data (Lohr 2012). Many applications in the making are leveraging big data and will soon form the basis for artificial intelligence (Lohr 2012). Other big data–based applications include social media, social networks, virtual reality, augmented reality, geotracking devices, the Internet of Things, and applications revolving around the distribution and redistribution of services.

To best sort out the various types of technology-enabled business transactions, we prepared five scenarios to discuss current applications as well as their impact on the future of tourism. This discussion is guided by a matrix of connectivity, which is enhanced by the rapid development and application of Internet technology and authenticity as desired by tourists to enrich travel experience.

4.5 Tourism Scenarios

Recently, Sophie Parker, director of product at Booking.com, said:

> Travel is now so accessible to so many people, which is an awesome thing, but at the same time we're in this selfie-stick era, [where] everything is mass travel and ticking off the main sights. I really hope that we see a return to authentic travel and people being able to find new places, new things and new experiences that really match them. (Gresty 2016)

Along with Parker's wish, we propose to build a framework with two main axes. The first axis represents the level of connectivity associated with the tourism operation as

it relates to any form of technology that connects the end user tourist to the operator. As Internet penetration worldwide reaches a tipping point and has saturated most Western regions, connectivity is a consumer need that has become an intricate part of life. In that sense, connectivity feels "real" for most consumers, mainly Westerners, mainly younger. For most other consumers, connectivity is not native (Prensky 2001). These consumers might see most or all connectivity attempts from the tourism industry as a gimmick not aligned with their own values when it comes to a tourism experience.

The second axis is "authenticity," as defined and explained by Gilmore and Pine (2007). "Consumers choose to buy or not buy based on how *real* they perceive an offering to be. Business today, therefore, is all about being real. Original. Genuine. Sincere. *Authentic*" (Gilmore and Pine 2007, p. 1). Tourists are seeking authentic experiences that match their self-image, and operators are using authenticity to differentiate themselves. On these two axes we can draw five scenarios, which are explained in Fig. 4.1.

Scenario 1: "May The Force Be With You," or the Battle of Tourism Service Distribution

Since the advent of OTAs in the mid 1990s, hotels, airlines, and later car rental companies have been trying to recapture the ownership of their inventory (Green and Lomanno 2012). First, unsold inventory was heavily discounted and sold via these online platforms, then the power of the Internet forced the industry to find a way to reduce discounted inventory distributed online, or to find ways to convert customers back to their proprietary website without alienating the distribution channels. Today,

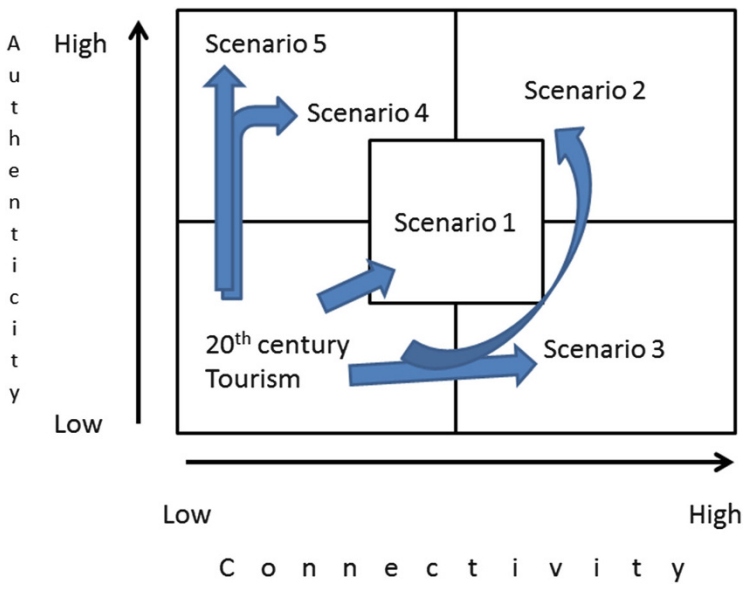

Fig. 4.1 Framework for tourism scenarios

OTAs and the industry have found what seems to be a happy medium between inventory and price parity. Unfortunately, the landscape has evolved again with the phenomenon known as the "shared economy" (Hargreaves 2016; Ting 2016a). Airbnb, for example, epitomizes the power of the Internet in an attempt to level the playing field and has consumers meet consumers without intermediaries, at least none perceived, in what could be characterized as a form of trade, not unlike bartering. In some cases the barter is pure, like Couchsurfing.com; in other cases the barter appears to be pure to the end users, but the service producer is in fact paying part of the transaction price back to the distribution company, very much like the OTAs-tourism industry current relationship. This is the case with Uber, Airbnb, and other recent "shared economy" companies (Camphuis 2016).

What will the future bring? And how can the OTAs and the tourism industry survive such a frontal attack? We believe that the shared economy represents more a threat to the OTAs than to the tourism industry, providing the latter embraces the concept at a faster pace than it adapted to the OTAs' penetration. OTAs such as Hotels.com, TripAdvisor.com, and Expedia.com will have to augment their services to stay relevant to consumers (Dodson 2016). For instance, they might become more knowledgeable about the destination they distribute, such as the traditional street corner travel agency was doing prior to the Internet. OTAs could also join the trend and start distributing millions of individual rooms, car rides, dinners, and so on, to directly compete against the Airbnb of the world.

On its side, the tourism industry needs to act faster than it did when faced by the OTAs and needs to rethink its business models. It could be that it could use the platforms to distribute hotel rooms or car rides (Rodrigues 2016; Ting 2016b), but more likely, given that the end user is looking for a personalized and unique experience, it might reinvent itself as distributors of rooms, car rides, dinners, and the like (Rodrigues 2016). The hotel company of the future is going to leverage the Internet to distribute more than its own inventory. It will position itself as the city hub, or country hub for all tourism-related transactions. It will become the travel agency or will lose control of its own inventory or price, or both.

For Airbnb, the digital marketing strategies of OTAs or the tourism industry will be the weapon of choice (Ting 2016c). The ultimate goal is the capture and conversion of an Internet surfer to a loyal customer that has only one brand top of mind when thinking vacation plans. The rest is only a logistic management issue. Here the consumer will be directed to the online platform with the best grasp of big data analytics using the best online behavioral models to allow the website to adapt and morph to match the needs and aspiration of the consumer. Vendors such as Amadeus, American Express, and others will help tourism operators in the pursuit of the most "authentic" online customer experience with the ultimate goal of mass customization using some form of big data analysis and artificial intelligence (Hotel News 2016). The tourism battle will be played way before the customer sets foot in the taxi or Uber car taking him or her to the airport.

What will happen to the hotel companies as we know them? Hotel companies dealt with their real estate management challenges in the 1990s by separating operation from asset investment, moving to franchising schemes and lease-back

contracts in search of a lighter balance sheet. In the near future, hotel companies will focus on branding and will become full-fledged marketing entities responsible for consumer acquisition and consumer relationship management. The Marriott, Hilton, Inter-Continental Hotels Group, and Accor as we know them will spin off the management of operations to separate companies. Hotel companies, renamed marketing companies, will manage inventory larger than their hotels by including shared economy real estate. Similarly, management companies will clean rooms at the hotels and for private flat owners without discernment. These companies will themselves outsource their labor to supply platforms similar to AngiesList.com, where freelancers will seek work when they need it.

Scenario 2: "I Know Where You Were Last Summer," or Geotracking and Other Wearable Technology that will Augment our Tourism Experience

The penetration of fitbit devices will reach upward of 63 million users in 2016, according to eMarketer (2015). Add to that the mobile smart phone, smart watch, and tablet tracking apps and you get a sense that (some) consumers do not mind being tracked as long as the tracking helps them in one way or another (eMarketer 2015). In fact, the younger the consumers, the more likely they will "understand" that geotracking is here to help them more than hurt them (eMarketer 2015). Wearable technology, combined with geolocation management processes, can help crowd control, ease service bottleneck situations, increase security, and monitor and report progress toward a goal related to movement, e.g., going on a trip or exercising.

Disney has recently launched Magicbands (Brigante 2014), a wearable technology between a fitbit and security bracelet and a two-way communication device between the park's consumers and the park's operations. Soon other closed touristic environments might see value in providing the same technology to their customers. We can anticipate museums, cruise ships, resorts, hotels, historical places, cities, and even countries providing a "magicband" to their customers to help with flow in places where bottlenecks are common (RFI 2016). More importantly to the operator, the technology will also provide a way to push marketing-related notifications, similar to how promotional ads are pushed to grocery shoppers equipped with a bar scanner (Zimmerman 2011) or pushed to passersby to allow a retail store or brand to let them know via Bluetooth what special deals are available (Girish 2015). In the near future, we might see tourism organizations using the push notification to inform and motivate consumers to go to places they did not know existed or did not think about, thus easing the flow of tourists in very popular locations while increasing flow to secondary destinations. Tourism organizations might learn from each consumer journey and be able to optimize trips and suggest new ways to visit that will be based on past trips and thus might increase the probability of travelers returning to the same place. The side benefits will be increased security, at the cost of a loss of privacy. In a sense, this scenario is an extension of Scenario 1, whereby connectivity and real-time data analysis will allow an adaptation of services that will match consumers' needs for authenticity and increase industry profits by way of upselling, premium pricing, or cost reduction.

Amazon's experimentation with "dash buttons" (Crouch 2015) or apps that allow mobile users to "talk" to service providers (e.g., social media chat platforms) ultimately provides immediate and categorical feedback or comments from the consumer back to the provider. Even if big data–based algorithms become more and more efficient, nothing replaces the clear push of a button or a clear text message when a consumer is in need of something in particular. For instance, a tourist on a beach sunbathing wants a mojito. A quick text to the hotel, and it is on its way. The battleground here will be access to the tourist mobile device app of choice and the logistical nightmare that such a personal service will entail. But additional revenues and increasing tourist satisfaction will make it worthwhile. Will the tourism operator be able to fight the Amazon of the world on that forefront? Amazon and Wal-Mart are both planning drone-dropping logistics that might be used in a tourism operation and found faster than any tourism operator under certain circumstances (Eadicicco 2015), but it will be difficult to deliver fresh and authentic foods and beverages in that manner, at least in the near future. Delivering dry goods to a remote location, e.g., the base camp of Mount Everest or the Great Barrier Reef, might be out of reach for the local operator and might present an opportunity for Amazon. The "low-hanging fruit" for tourism operators still resides in facilitating the dialogue between their guests and the operation. In that manner, the leverage presented by mobile apps and dash buttons will make the room service or concierge call obsolete.

The true power of the mobile connectivity-based service presented in this scenario might come from the company that owns the best communication network. It seems that a low-altitude satellite (McCormick 2014) or very high altitude solar-powered drones (McGoogan 2016) might play a large role in the future, allowing companies to connect with consumers anywhere and everywhere on the planet. The efficiency of the system will be achieved by the size of the network, the so-called "network effect" (Cabal and Leita 1992). But if the satellites are launched and owned by a company like Goggle or Facebook, millions of users will instantly have access to the network and might drop in a minute any other forms of connectivity distribution, such as cable, cell tower, or dish, in favor of the one their friends have access to.

Scenario 3: "There Is a Difference Between Knowing the Path and Walking the Path," or Virtual Tourism in a Real World

The recent craze for a chase involving virtual cartoon characters and real places named Pokemon Go (Dockray 2016) shows the natural inclination that consumers have for having fun with technology. The Pokemon Go game relies on augmented reality, where a real place is pictured on the person's smart phone or mobile device's screen and a picture with or without text or voice is overlaid on the reality, creating a new experience of the real world, and showing potential as a way to generate traffic (Dockray 2016). Museums and tourism destinations have played with augmented reality concepts since the early 2000s (Fritz et al. 2005), but just like the scanning of QR codes to access additional information about a brand or place, the technology has not taken off. The reasons may be linked to segmentation and how younger tourists are not the bulk of museums goers, but this is bound to change with demographics and the "gamification" of every aspect of life (Deterding et al. 2011). At the same

time that augmented reality allows tourism organizations to increase consumers' experience, virtual reality allows consumers to see and experience travel to a destination without leaving their home. The future of tourism might be made up of a combination of augmented reality with QR codes accessed via "Google glasses" replacing guides and operators. More likely, the opportunity for some operators is to seize the trend and create content that will provide a better consumer experience than the competition. Thus, the product of the future might be something like a Louvre visit with augmented reality developed by professional producers and involving movie stars that will compete with the museum itself. Think about *Night at the Museum* meets Pokemon Go. This is similar to what IMAX theatres propose at some museums (e.g., the movie *Suicide Squad* playing in 3D at the Washington, DC, Smithsonian Air and Space museum IMAX theatre; AirandSpace.si.edu).

On the other hand, consumers who cannot materially go to Paris, for instance, might want to virtually visit the Louvre. Virtual reality technology is leveraging the increasing power of the smaller portable devices equipped with high-definition screens and more computer power, which provide a very close-to-reality experience while staying home (Guttentag 2010; Ting 2016b; Travel + Leisure 2016). Add to virtual reality some form of artificial intelligence, whether it is robots, nanotechnology, or adaptive software, and the experience of tourism in the future for those who cannot travel will be as real and authentic as it can be. Today robots have replaced bartenders on the Royal Caribbean Anthem of the Seas (Cruise Critic 2016); tomorrow they will deliver room service, will be the concierge, and may be the short-order cooks as well. Nanotechnologies help the fashion industry in many ways, including making intelligent fabric that senses weather changes or repelling stains or viruses (Cave 2014). Tomorrow, travel to foreign destinations plagued with some form of virus (e.g., Zika virus, H1N1) will be possible without immunization. Trekkers or sailors around the world will use water-filtering solutions made of nanomaterials to purify water from the sea, rivers, or streams for drinking (Cave 2014).

Scenario 3 might diffuse in the market at the speed of demographic changes fueled by the disproportionate number of youth in many developing countries. The scenario appeals mostly to younger tourists or potential tourists, and it will take some time for most of these consumers to be planning vacations. This highly technology-dependent scenario relies on the propensity for the tourism industry to position these near sci-fi tourism experiences as the best alternative to the real thing. Smart operators will use this approach to penetrate the market and capture consumers' loyalty to later upsell them into the real thing.

Scenario 4: The Final Frontier for the Top 1%, or Travel Where no one can Go
The Final Frontier is not only a sci-fi movie title; it is becoming a marketing pitch to the wealthy to sell extreme destinations or experiences such as zero-gravity flights (CNN 2013), suborbital flights, rocket flights, or deep sea submarine dives. As technology gets accessible to the very rich, e.g., billionaires such as Richard Branson, tourism offerings are put together and technology is adapted to the needs of the next 10% wealthiest consumers in need of an exclusive experience to knock

off their bucket list (Walker 2016). Hilton presented the idea of the moon hotel at the end of the twentieth century (Novak 2012); it was a very far-fetched idea at the time, but today it seems possible to at least go to the moon and back without needing tremendous training. Hence, extreme destinations and tourism packages will be offered to those who can afford them.

Meanwhile, more traditional destinations such as Bhutan, once secluded or off limits to mass tourists, are experimenting with some form of yield management, whereby they voluntarily restrict the number of tourists in order to preserve their natural and cultural environment (Fisher 2015). The world is a small village thanks to the Internet; thus, rare are the places where no one has gone. At the same time, very large countries—i.e., BRIC, or Brazil, Russia, India, and China—are developing to the point that millions of future international travelers will soon have the means to explore the world. Thus, finding a secluded destination where no one has been before is becoming a rare event. Destinations that can afford to preserve the flow of tourists will be able to command a premium to compensate for the lack of volume. That form of tourism might use some form of nostalgia to position paradisiac destinations guaranteed to offer adventure, untainted experiences, and authentic encounters.

This scenario is more likely to be implemented by destinations in need of some form of control, probably due to local political will, or to be formulated and offered by the tourism industry (Gilmore and Pine 2007) as a differentiated answer to the high connectivity-driven scenarios presented above.

Scenario 5: "Back To The Future," or the Race Against the Tourism Machine
In 2016, Rochefort-en-Terre, a 697-inhabitant French village located in Brittany, was voted the favorite village of French citizens. Overnight, tourism increased by double digits (Erondel 2016). What makes this village so unique? It is preserved in pristine condition, dating from the late nineteenth century for the latest homes to the Middle Ages for the castle. There are no hanging telephone lines overhead, no satellite dishes on homes' roofs, no signs of modernity. It is basically a living museum, an authentic French village. Authenticity is not only a buzz word, it is a trend that services such as tourism organizations are surfing on (Binkhorst and Den Dekker 2009; Gilmore and Pine 2007). Customers seek authentic experiences from their tour operators, and destinations differentiate themselves from the competition by showcasing authentic services or experiences. Authenticity in tourism often rhymes with tradition and some lost way of life. In today's Internet-of-Things society, many consumers suffer from withdrawal if they cannot access the next Facebook update (Tossell 2016). Other consumers seem to search for an unplugged experience (Gonzalo 2015). Half therapy, half lifestyle, offering authentic touristic experiences in an unplugged environment might be a way to differentiate one tourism operation from another in a hyperconnected society.

In a similar manner, niche tourism offerings such as pro-poor tourism or volunteer tourism, are also tapping into the need for some consumers to reconnect with what they feel is real or authentic in a tourism experience. Pro-poor tourism is less another form of tourism and more a system in which tourism and tourism offerings

have a goal to alleviate poverty one tourist at a time (Ashley et al. 2001). In its extreme, pro-poor tourism could favor some form of mass tourism, but in general pro-poor tourism is also concerned with sustainability and authenticity. Thus, pro-poor tourism takes the form of authentic niche tourism offerings that have been set up to make tourists meet the needs of the population in their quest out of poverty. Some forms of pro-poor tourism are found in the niche tourism offerings known as eco-tourism, community-based tourism, or volunteer tourism. These specific forms of tourism, if offered within the scope of pro-poor tourism, reach the goals of reducing poverty while giving the tourist a specific activity that meets his or her needs. The overarching benefit is that authenticity, more than technology-driven connectivity, is the essence of the tourism experience.

For tourism operators to sustain their business, some form of word-of-mouth or marketing communication is needed. Thus, connectivity takes the form of storytelling, whether through Facebook posts, Instagram pages, or Twitter feed. Even the most unplugged tourism offering needs to connect with the next customer.

4.6 Implications for Public Policy and Destination Management

In this section, we provide an integrated discussion of policy and management implications for the future of tourism influenced by the above-mentioned economic forces, particularly focusing on technologically enabled transactions in tourism. These implications include a regulatory framework, employment, climate change, and the balance of connectivity and authenticity.

4.6.1 Technologically Enabled Transactions and a Regulatory Framework

As Internet technology has been commercialized for travel business transactions, new business models, such as shared economy services, not only innovate service distribution, but also disrupt traditional business practices and affect public policy. A survey of 245 U.S. city leaders found that respondents viewed shared economy services positively for providing improved services, increasing economic activities including tourism, and stimulating entrepreneurship activities (National League of Cities 2015). However, the city leaders also raised concerns about safety, protecting traditional services and business participants, and noncompliance for standards. Public policy makers are therefore confronted with a new set of challenges brought up by shared economy services, including sales tax implications, zoning laws, safety issues, service standards, and social impact on urban communities with decreasing rentals or affordable housing for local residents since the rental inventory is now

used for short-term vacation rentals, a phenomenon described as "cottage hotels" (Lee 2016, p. 230; Schechner 2015). Recent legislation passed by New York State to ban rentals less than 30 days if the residents are not present is an example of the challenges between technologically enabled businesses and the local legislature (Bellafante 2016). As an innovative, technologically enabled business, shared economy services generate economic impact to a city or a local destination by providing lodging and transportation services to visitors to different parts of the city and neighborhoods and benefit the local communities; otherwise, these visitors would not be able to visit some of these communities and experience the authentic local way of life. Therefore, the local government and shared economy services need to forge a partnership to address the economic and social issues. A good example was the advice by the European Commission to its members to not overregulate shared economy services such as Airbnb and Uber (Zillman 2016). Shared economy firms should work with the local government and community to ensure safety and maintain standards to benefit the local economy, society, and consumers.

4.6.2 Technologically Enabled Transactions and Employment

Tourism is traditionally considered a labor-intensive business. One critical factor that will affect industry growth and tourist experience is talent acquisition and development. The gaps and deficiencies in talent development have been thoroughly reviewed and analyzed, and the critical challenges in attracting and maintaining talent, in competition with other businesses, have been identified by the World Travel and Tourism Council (2015). Different countries and regions face their own set of challenges for talent, whether related to culture, technical issues, the seasonal nature of the work, or lack of educational or training institutions or programs. For instance, Chinese outbound tourism is now the top international source market for Washington, DC; however, Washington, DC has a critical shortage of Chinese-speaking tour guides for leading the Chinese tour groups and individual travelers.

On the other hand, the possibilities offered by artificial intelligence are going to replace people for certain jobs. Already, some predict that by 2030, mid-level analysts and management jobs will be obsolete (Störmer et al. 2014). Future technological development and potential commercialization will cause disruptions by displacing people in hospitality jobs, such as with the driverless cars now being tested by Google and Uber. Uber has announced a launch of self-driving rides in Pittsburgh in fall 2016 (Blazina 2016). The race to introduce self-driving vehicles will eventually affect the jobs of Uber drivers and taxi drivers. In the case of tour guides speaking different languages, the Pilot was developed by Waverly Labs as an earpiece language translator that can translate different languages between people from different countries. Jobs for tour guides trained in different foreign languages will be affected as the Pilot is fully commercialized with more foreign language

translation selections for both individual travelers and tour groups. These rapidly evolving tourism transactions enabled by technology require public policy makers to anticipate and prepare for any major disruptions to talent development and management in existing businesses, such as the physical travel agents being affected by Expedia and now Airbnb.

4.6.3 Technologically Enabled Transactions and Climate Change

Increased international tourist flows are both the cause and effect of climate change. As discussed earlier, airlines in different countries have been developing new domestic and international routes to meet the growing demand for tourism. Since air and surface transportation is the main contributor of carbon emissions that cause greenhouse gas, the tourism industry faces the challenge of mitigating global warming by reducing carbon emissions. Public policy needs to continue focusing on pricing mechanism such as taxes and tolls, fuel economy standards, and funding for research and development in low carbon fuels and alternative vehicles (Center for Biological Diversity 2016). Aviation management should then continue to improve and reduce holding time on the tarmac, and aircraft manufacturers need to develop an innovative design to reduce aircraft weight, which can improve fuel efficiency.

Hotel operations generate 20% of carbon emissions of the tourism industry due to energy consumption for operating HVAC systems (UNWTO 2007). Hotel organizations around the world have adopted management practices to reduce energy consumption in property management. The development of the Internet of Things will particularly benefit hotel operations because of the connectivity of devices, systems, and services (Tossell 2016). Internet of Things–enabled devices and equipment can communicate with a service center, such as the front office or housekeeping or engineering operations, to report the level of energy usage, certain changes in energy usage, and the need to maintain efficient energy use (Tossell 2016). Clearly, the Internet of Things can enable hotel operations to monitor and adjust energy consumption in real time to keep consumers comfortable, yet manage energy use efficiency to reduce carbon emissions.

4.6.4 Balancing Connectivity and Authenticity

In balancing connectivity and authenticity while leveraging technological advances, tourism destinations and enterprises need to focus their strategy on market positioning by understanding their uniqueness and the competition. This differentiating position will be determined by a strategy that is more technology driven for connectivity, such as having wi-fi connections on the tour coach, in the restaurant and hotels,

and at attractions, or an alternative strategy that focuses on authentic experience, such as the case of Bhutan. For instance, a lodge might see an opportunity in pivoting toward a more authentic, less connected positioning; instead of investing in wi-fi or cable TV, it might invest in a water recycling plant and position itself more as an eco-lodge. A destination seeking cruise business as a stopover might want to use a position high in connectivity-technology to ease the flow of tourists and connect small operators with consumers. A push message to consumers at sea could market the different in-port activities and manage the supply and demand in a way that would maximize revenues and the consumer experience. Consumers might be equipped with "magicbands" that could carry credits for operators and help visualize the flow and manage the bottlenecks.

Such a strategy implies a fine understanding of segmentation based on current and future consumer needs. Therefore, a destination needs to think about which attribute to communicate in order to influence the consumer's perception, capture market share, and deliver a satisfying tourist experience. Public policy makers can take a similar road to destination or tourism operators, and in doing so might actually set the stage for destination stakeholders. For instance, a clear sustainable policy might foster local operators' positioning toward more authentic experiences. In this regard, Aruba tourism is an example (Cohen 2014). While the island faces issues of controlling mass tourism stemming from the booming cruising industry, the tourism ministry launched a massive sustainable resort development recognized by the Earth Institute. The challenge for this ecologic initiative will be to transition from mass tourism while preserving the flow of tourism receipts. Bhutan is a more textbook example in the matter.

4.7 Conclusion

In this chapter, we have discussed the paradigmatic shift in globalization, ecology, and technology in the last 15 years and the economic forces that will affect the future of tourism development. As globalization continues to spread over the globe and lift millions of people out of poverty, such as in China, international travel will grow steadily and the travel flow will continue to shift from East to West, and from South to North. Increased international tourist volume will continue to put pressure on destination infrastructure, different modes of transportation, service facilities, and talent development. Growing demand for air travel, cruise travel, tour buses, and self-driving will increase carbon emissions to exacerbate the greenhouse effect that contributes to climate change. In addition, tourist demand will also impact natural and cultural resources in destinations that have not been systematically planned and effectively managed, and valuable tourism assets may thus be negatively affected in the development or management process.

As Internet technology continues to enhance digital connectivity between destinations/service providers and consumers, the balance between connectivity and authenticity requires each destination and business to consider a strategy that will

benefit all stakeholders, the environment, and the society. Destinations can invest in technology to connect with current and future consumers through digital networks as well as virtual reality and augmented reality. Destinations can also focus on authenticity while maintaining a low connectivity, or they can keep a balance of authenticity and connectivity. As tourist demographics shift toward the digital natives, opportunities to become more connected while staying "real" and authentic to the consumer's values will strengthen. Yet, there will always be space for (near) pure authentic positioning, even after demographic shifts have taken place in 2030. The globalization of information and travel will make these authentic destinations too few for the demand. Thus, a "a-la-Bhutan" strategy will be paramount to conserve the environment and command the premium to guarantee sustainability.

Globalization and technology advancement will also augment or may disrupt traditional tourism business practices. The application of 3D printing using additive manufacturing technology, for instance, produces delicate and sophisticated tableware for special dinners and has broad implications for the food service business and special events (Lipton et al. 2015). The future implication of driverless cars and services rendered by other robotic devices using artificial intelligence will have major implications for public policy on safety and employment.

Advances in technology will continue to propel the development of future tourism. Similar to globalization in the previous decades, which benefited people in different parts of the world while bypassing other cities or regions, technology development will also increase the digital divide between the rich and the poor and will continue to disrupt established business practices and individuals' lives. Though technological innovation has been the driving force for changing business practices, it also needs to be facilitated by a legislative and legal framework and business ethics to support fundamental changes in economy and society. Therefore, adaptability to new technology development and market change is critical for both public policy makers and business enterprises to harness future tourism.

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